

Remarks/Arguments:

Claims 1-6 are pending. Claims 1-6 stand rejected.

Rejections Under 35 U.S.C. § 102

The Office Action sets forth at page 2, paragraph 4, "Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyazaki (USP 5,408,401)." Applicants respectfully submit that this rejection is overcome by the amendments to the claims for the reasons set forth below.

Applicants' invention, as recited in claim 1, includes features which are not disclosed or suggested by Miyazaki, namely:

... at least one control switch coupled to at least one primary winding of a transformer...

...a control circuit for controlling the switch, to which a regulating signal in the sense of the regulation of at least an output voltage is sent, wherein a power supply of the control circuit is provided via:

i) a forward voltage of an auxiliary winding of the transformer, a first rectifier, a capacitor and a series regulator, or

ii) the input voltage, via a current path and a storage capacitor during initialization of the voltage converter...

... an off-state voltage of the auxiliary winding, which is rectified by means of a second rectifier is provided to the control circuit as an alternative power supply, wherein the rectified off-state voltage of the auxiliary winding is used to supply power to the control circuit during operation as long as the auxiliary winding has at least a predetermined voltage level. (Emphasis added)

These features are described in applicants' specification, for example, at page 5, line 15 through page 6, line 31.

Miyazaki is relied as "[disclosing] a switch (Tr1), a forward transformer (TR1), a control circuit (121) with current (9) and voltage feedback (7) with storage capacitor (C3) at the output end." Miyazaki does not disclose or suggest, however, a power supply of the control circuit provided via i) a forward voltage of an auxiliary winding of the transformer, first rectifier, capacitor and a series regulator or ii) the input voltage, via a current path and a storage capacitor during initialization of the voltage converter, such that the off-state voltage of the auxiliary winding, which is rectified by a second rectifier is provided to the control circuit as an alternative power supply so that the rectified off-state voltage of the

auxiliary winding is used to supply power to control circuit during operation as long as the auxiliary winding has at least a predetermined voltage level. Applicants respectfully submit that Miyazaki discloses no more than applicants' explanation of the state of the art according to figure 1 of applicants' background of the application. In other words, Miyazaki only discloses a conventional switching circuit having one primary winding connected in series with a switching transistor and one auxiliary primary winding with a rectifier for producing the supply voltage for the control circuit.

In contrast, applicants' invention as recited in claim 1 includes a control circuit for controlling the switch where the power supply of the control circuit is provided via i) a forward voltage of an auxiliary winding of the transformer, first rectifier, capacitor and a series resistor or ii) the input voltage, via a current path and a storage capacitor during initialization of the voltage converter, such that the off-state voltage of the auxiliary winding, which is rectified by a second rectifier is provided to the control circuit as an alternative power supply such that the rectified off-state voltage of the auxiliary winding is used to supply power to the control circuit during operation as long as the auxiliary winding has at least a predetermined voltage level.

It is because applicants have included the features of a control circuit for controlling the switch where the power supply of the control circuit is provided via i) a forward voltage of an auxiliary winding of the transformer, first rectifier, capacitor and a series resistor or ii) the input voltage, via a current path and a storage capacitor during initialization of the voltage converter, such that the off-state voltage of the auxiliary winding, which is rectified by a second rectifier is provided to the control circuit as an alternative power supply such that the rectified off-state voltage of the auxiliary winding is used to supply power to the control circuit during operation as long as the auxiliary winding has at least a predetermined voltage level, that applicants are able to provide a switching circuit which is suitable for a broad range of input voltages and has low losses during the generation of the auxiliary power supply for the control circuit. Miyazaki fails to provide these advantages because Miyazaki does not include a control circuit for controlling the switch where the power supply of the control circuit is provided via i) a forward voltage of an auxiliary winding of the transformer, first rectifier, capacitor and a series resistor or ii) the input voltage, via a current path and a storage capacitor during initialization of the voltage converter, such that the off-state voltage of the auxiliary winding, which is rectified by a second rectifier is provided to the control circuit as an alternative power supply such that the rectified off-state

voltage of the auxiliary winding is used to supply power to the control circuit during operation as long as the auxiliary winding has at least a predetermined voltage level.

Applicants respectfully submit, therefore, that the rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Miyazaki is improper, should be withdrawn, and the claim allowed.

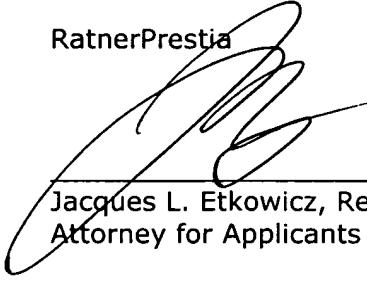
Claims 2-6 depend upon claim 1 and, thus, are likewise not subject to rejection for at least the reasons set forth above with respect to claim 1.

Applicants have added claims 7-9. Of these, claim 7 which ultimately depends upon claim 1 and is thus allowable for at least the reasons set forth above with respect to claim 1. Independent claim 8 identical includes features similar to those of claim 1 and, thus, is allowable for at least the reasons set forth above with respect to claim 1, and claim 9 depends upon allowable claim 8. These additional claims do not introduce new matter. Applicants respectfully request, therefore, that claims 7-9 be entered and examined.

In view of the amendments and remarks set forth above, applicants submit that the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

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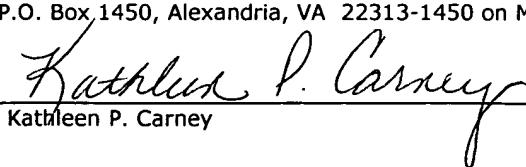
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